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USSR MATERIALS AND MATERIALS PROCESSING EQUIPMENT

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USSR MATERIALS AND MATERIALS PROCESSING
EQUIPMENT (27)

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I. CHEMICAL INDUSTRY

Regional Roundups

USSR

CPYRGHT

PROGRESS MADE SINCE 1958 PLENUM -- Moscow, Ekonomicheskaya Gazeta, 17 Aug 60

The chemical industry, together with other branches of heavy industry, plays a significant role in solving the principal economic task of the USSR, which is, in the shortest possible period of time, to overtake and outstrip the most developed capitalist countries in the production of goods for the welfare of the people. Development of the chemical industry provides the possibility for most successful utilization of the natural resources of the country and is a necessary condition for further technical progress.

More than 2,000 forms of plastics, synthetic rubber made from gas, and synthetic fibers made from caprolactam now find applications in the USSR economy. And none of these products is in any way inferior to products made from natural materials.

In the more than 2 years that have passed since the May 1958 Plenum of the Central Committee CPSU, which adopted the decision on accelerated development of the chemical industry, the enterprises, scientific research institutes, planning organizations, and sovnarkhozes have realized considerable success in accomplishing the tasks assigned by the party.

The reorganized administration of industry and construction has eliminated jurisdictional conflicts that existed between the ministries of the petroleum industry and the chemical industry and has yielded the possibility for fuller and more economical utilization of the raw material base for organic synthesis.

The scientific research organizations of the State Committee on Chemistry of the Council of Ministers USSR have solved many technical problems in the field of creating and producing new polymers and other synthetic materials.

The Stalinogorsk and Lisichansk chemical combines and the Voronezh Synthetic Rubber Plant have achieved success in developing new chemical products. The output of vinyl chloride by a new method, which effects considerable reduction in cost and results in a higher-quality polyvinyl chloride resin, has been organized in the Gor'kovskiy Economic Administrative Region.

CPYRGHT

However, some scientific research and planning institutes have not yet succeeded in developing important technological processes. The Institute of Artificial Fiber, for example, was to have finished development of a method for producing high-quality viscose cord in 1959, but the institute failed to fulfill its assigned task.

The problem of producing isoprene synthetic rubber has not yet been solved. The All-Union Scientific Research Institute of Synthetic Rubber has not yet provided the starting data needed to organize isoprene rubber production. Nonetheless, output has been planned and must begin in a few years at the Sterlitamak Synthetic Rubber Plant. The institute must also still do much work to ensure an improvement in the quality of butadiene-styrene rubber. Successful fulfillment of its tasks will considerably raise the quality and lengthen the life of motor vehicle tires.

Serious cause for concern is the lagging preparation for production of high-strength hexachlorocyclohexane and herbicide 2,4D in the Azerbaydzhan Economic Administrative Region and output of acrylic fiber (nitron) in the Saratovskiy Economic Administrative Region.

In 1961, the Gor'kovskiy Sovnarkhoz must begin experimental output of an intermediate needed for the production of plant protection chemicals. Using this as a base, effective weed killers will be produced for use in corn fields. Therefore, the institutes of the State Committee on Chemistry should take the necessary measures to speed up the formulation of plans for production of the intermediate product.

Some institutes of the State Committee on Chemistry do not meet target dates in developing new technological processes. There is delay in the construction of experimental installations. Sometimes manpower and funds are devoted to out-of-date problems. Sometimes the planning organizations fail to make good decisions. Often they continue to concern themselves with obsolete equipment designs and outdated production methods. Gipropplast [State Institute for Planning of Plastics Enterprises], for example, recommended a batch method for cellulose acetate plants, a method not as good as the continuous method used abroad.

Expansion of the production of synthetic materials is an important aspect of the economic development of the country. The task can be accomplished only by the joint effort of scientists and production workers.

Georgian SSR

PLANT SUCCESSES SINCE MAY 1958 DESCRIBED -- Tbilisi, Zarya Vostoka,
25 Aug 60

The Georgian SSR chemical industry has made considerable progress since the May 1958 Plenum on accelerated development of the chemical industry.

The Rustavi Nitrogen Fertilizer Plant has already done much work on its expansion and remodeling program, designed to more than double its capacity for the output of ammonia and nitrogen fertilizers. In 1959, construction was begun on shops for the production of caprolactam by the phenol method; this product will serve as raw material for a synthetic fiber plant, now under construction in Rustavi, which will produce capron.

In 1960, the Rustavi Nitrogen Fertilizer Plant completed experimental work on the production of active manganese dioxide; this work was a test of production technology suggested by the Institute of Applied Chemistry and Electrochemistry, Academy of Sciences Georgian SSR. Planning of a large shop has been assigned to Gruzgiprometz /State Institute for Planning of Metallurgical Plants, Georgian SSR/.

The Rustavi Synthetic Fiber Plant, which will produce capron, is now constructing the experimental production buildings where personnel of the future plant will be trained. Productivity of the experimental shop will be 500 kg of synthetic fiber daily. The shop will be completed in the fourth quarter of 1961.

The first stage of the Rustavi Synthetic Fiber Plant is scheduled to go into operation in 1962. Construction of the main chemical building is in progress and work has begun on machine shops, warehouses, and other secondary buildings.

At the Kutaisi Lithopone Plant, work is in progress to enlarge the calcining furnace No 4, the finished product dryer, and the vacuum filtering installation. The objective is expanded lithopone production capacity.

Production of oil-free emulsion paint on the basis of polyvinyl acetate emulsion has been organized for the first time in the Georgian SSR. In the second quarter of 1960, production of special "Imperial" screen needed for the lithopone dryers was organized for the first time in Georgia. Similarly, production of several other chemical products has been organized for the first time in the republic.

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Moscow, Pravda, 7 Sep 60

Alongside the Rustavi Nitrogen Fertilizer Plant there is a construction area where several organic synthesis shops are being built. The shops will produce thousands of tons of caprolactam, a raw material for the production of capron fiber. Some shops, including an experimental production shop, are nearing completion. Large metal reservoirs are being erected for storing various chemical materials.

Nearby, a large plant that will convert caprolactam into capron fiber is under construction. The fiber will be used to produce fabrics, knitwear, and cord.

Minsk, Sovetskaya Belorussiya, 2 Sep 60

Construction work at the Rustavi Synthetic Fiber Plant is proceeding at a rapid pace. Construction of the weak nitric acid shop has been completed, while the buildings of the experimental shop that will train the workers of the future plant are approaching completion. The shop will begin operations in the fourth quarter of 1961.

Equipment Supply Bottlenecks

INSTRUMENT SHORTAGE IMPEDES AUTOMATION OF MODEL PLANT -- Moscow, Ekonomicheskaya Gazeta, 3 Sep 60

Since the start of the Seven-Year Plan, several new production facilities and experimental installations have been put into operation at the Lisichansk Chemical Combine. The combine was the first enterprise in the USSR to produce synthetic alcohol from natural gas. Production of acetylene and isobutyl alcohol from natural gas and refinery gas has been organized in experimental shops.

The first stage of caprolactam production is scheduled to go into operation at the enterprise in 1960 and output of carbamide and polyamide resins is to begin with 2 years thereafter. Within the next 3 years, the combine must be fully converted to natural gas. Such conversion will eliminate the need for 100,000 tons of coke annually.

New equipment and, especially, all-round automation form the basis for greater chemical output and better product quality. The Lisichansk Chemical Combine is one of the 81 USSR industrial enterprises which are to become models of all-round mechanization and automation. This goal is to be achieved at the Lisichansk Chemical Combine in the next few years. All-round automation of the ammonium nitrate shop is now being achieved, and

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technological processes are already being directed by remote control from a control board. All processes of dispatching and packaging of the finished product are being observed by means of industrial television. Much work has also been done to effect automation in other production areas.

Except for a shortage of control and measuring instruments and automatic regulators, automation progress could have been greater. Several enterprises are failing to supply recording potentiometers and differential manometers.

The Kirovabad Instrument Building Plant of the Azerbaydzhan Sovnarkhoz has not delivered one of the 997 units (bloki) and secondary instruments needed for the caprolactam shops. Inquiry established that the plant does not have the equipment needed to fulfill the order. It is beyond understanding why Soyuzglavenergo [All-Union Main Power Administration] and Promenergoavtomatika [Industrial Power Automation?] Trust assigned this order to the Kirovabad plant.

LATE EQUIPMENT DELIVERIES MAY DELAY PLANT OPENING -- Moscow, Leninskoye Znanya, 6 Sep 60

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The Omsk Synthetic Rubber Plant is scheduled to go into operation in the fourth quarter of 1960. However, equipment deliveries are not being made on schedule. Several Moscow Oblast Sovnarkhoz plants are among the delinquents. The Podol'sk Machine Building Plant imeni Ordzhonikidze, in cooperation with other Moscow Oblast plants, was charged with delivering 19 units of chemical equipment in the first half of 1960. Despite repeated assurances, the plant has not yet supplied the equipment.

Mineral Resource Development

COPAL DEPOSIT FOUND IN CAUCASUS MOUNTAINS -- Baku, Bakinskiy Rabochiy, 13 Aug 60

CPYRGHT

Copal, a rare exotic mineral, has been found in chalky deposits in the foothills of the Little Caucasus Mountains. Friable and light, amber-yellow or orange colored, it ignites easily and burns with a nonluminous flame.

Copal, a mineral resin, is a material useful to the paint and varnish industry, high-quality coatings, a stable drying oil, and a miracle glue are products that can be prepared from it. Some varieties of the mineral go into linoleum production.

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The copal was found by a geological expedition of the Academy of Sciences Azerbaydzhan SSR and Azerbaydzhan Geological Administration. In recent times, synthetic resins have been displacing copal more and more, but it has not entirely lost its usefulness to the chemical industry.

TWIN LAKES A SOURCE OF MIRABILITE, SODIUM CHLORIDE, BROMINE, LITHIUM --
Moscow, Trud, 4 Sep 60

In the Kulundinskaya Steppe, there are two large lakes, Kulundinskoye and Kuchuyskoye, joined by a natural canal. These are "dead" bodies of water. There are no fish in their waters, and no fowl alight on their surfaces. But geologists have determined that there are vast resources of mirabilite and sodium chloride in the lakes; in fact, that the mirabilite content of Lake Kuchuyskoye exceeds that of the Kara-Bogaz-Gol Gulf. The salty liquid also contains much bromine, lithium, and chlorine.

Near the lake, there is a natural basin into which brine can be pumped for purposes of mirabilite recovery. It was decided to build the Kuchuyskiy Sulfate Combine near this basin. The combine buildings, an electric power plant, and hydraulic installations are under construction. A 6-km canal connecting Lake Kuchuyskoye and the natural basin has been completed. A workers' settlement called Novo-Blagoveshchensk, with some 3,000 inhabitants, has been established on a rise in the vicinity of the combine.

The combine will begin producing sodium sulfate in 1961. It is planned to build plants at the combine to produce Glauber's Salt, sodium sulfide, and lithium silicate glass.

Petrochemicals

SUMGAI TO BECOME GREAT USSR CHEMICAL CENTER -- Moscow, Khimiya i Tekhnologiya Toplivo i Masel, No 8, Aug 60, p 72

The Seven-Year Plan for development of the national economy provides for the development of Sumgait in the Azerbaydzhan SSR as one of the great petrochemical centers of the USSR. Total output of Sumgait petrochemical enterprises is to be almost ten times as great in 1965 as in 1959.

The Sumgait Petrochemical Combine will produce a wide variety of products. Many of them will be produced on an industrial scale for the first time in the USSR.

The synthetic fiber plant will produce so much "lavsan" that the fabric made from it will be sufficient to clothe the inhabitants of several medium size cities.

Other products to be made in large amounts include phenol, polyethylene, polypropylene, and polyvinyl chloride resin.

A nitrogen fertilizer group of shops will produce fertilizers and feed supplements for livestock.

The Sumgait Petrochemical Combine will put out products for machine building, textile, electrical, motor vehicle, and construction industry enterprises in the RSFSR, Ukraine, Georgia, Armenia, and Azerbaydzhani.

Very important is the fact that the production program of the future combine will be closely integrated with the programs of existing enterprises. For example, the combines will get propylene from the Sumgait Synthetic Rubber Plant for phenol and acetone production, while the synthetic rubber plant will receive from the combine the butane which it now obtains from the Novo-Baku Oil Refinery and the Grozny Oil Refinery.

Thirty planning and scientific research institutes of the country are planning the combine. Sumgait engineers are now engaged in work preparatory to construction of the combine.

UFA PLANT PRODUCES ETHYL ALCOHOL FROM REFINERY GASES -- Baku, Bakinskiy Rabochiy, 24 Aug 60

Ethyl alcohol, used in the production of synthetic rubber, was formerly obtained from grain and potatoes. Now, the Ufa Synthetic Alcohol Plant imeni 40-Letiya VLKSM produces it from light hydrocarbons, propane, butane, and other gases available at oil refineries.

While this plant is a new one, in existence only 4 years, and the first petrochemical enterprise in the Bashkirskaya ASSR, it has exceeded its planned production capacity and increased its output of ethyl alcohol month by month.

A second stage of the plant, which will be larger than the one in operation, is now under construction. Shops for the production of methyl styrene went into operation in April 1960. Methyl styrene is a raw material for producing a new type of synthetic rubber that is highly resistant to cold.

STALINOGORSK COMBINE BEGINS DIMETHYLTEREPHTHALATE OUTPUT FROM GASES --
Moscow, Ekonomicheskaya Gazeta, 26 Aug 60

The Stalinogorsk Chemical Combine is considered to be a pioneer in the sphere of developing the USSR chemical industry. It produced hydrogen by the natural gas conversion method for the first time; it developed the technology for producing granulated urea by the two-step distillation method; and it began the output of metallic sodium from sodium chloride. Now the combine is shipping considerable quantities of a formerly unknown miracle substance to Kursk in paper bags. This substance is DMT (dimethylterephthalate), a raw material for the production of artificial wool, the synthetic fiber "lavsan."

The new DMT shop is in reality a large plant. Its main building, a huge six-story structure, houses the equipment for all operations from paraxylene oxidation to packaging of the finished product, including steam, water, and electrical installations, the dispatcher's control panel, a laboratory, and a repair shop. Auxiliary buildings and installations include compressor and pump houses, heating plant, cooling tower, and electric power substation.

The difficulties of putting the shop into operation were overcome. Thus far, 86 tons of fiber raw material have been dispatched for processing by an experimental installation in Kursk.

Day by day, there is a reduction in losses of materials, losses that are usually inevitable when output of a new product is being organized. The shop personnel is striving to reach in December 1960 the level of para-xylene and methyl alcohol expenditure planned for the end of 1961.

Petroleum refining gases, from which para-xylene is produced, are the starting material for DMT. Another raw material is methyl alcohol, made by the Stalinogorsk Chemical Combine from natural gas.

According to plan, a second stage for DMT production will be built and put into operation at the Stalinogorsk Chemical Combine in 1962.

The experience gained by the Stalinogorsk personnel will be useful when similar facilities are created in other economic administrative regions.

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Synthetic Rubber

KAZAKH PLANT TO BEGIN OUTPUT IN SEPTEMBER 1960 -- Riga, Sovetskaya Latvya, 16 Aug 60

CPYRGHT The Karaganda Synthetic Rubber Plant is located at the edge of the city of Temir-Tau, on the shore of the Bol'shoye Nurinskoye Reservoir. The enterprise now produces calcium carbide, acetaldehyde, and acetic acid. Three shops of the synthetic rubber group are ready to be put into operation, while technological equipment is being installed in the rest. All production processes in the shops will be fully automatic. This giant chemical enterprise of Kazakhstan will produce its first rubber in September 1960.

RESERVOIRS BEING BUILT AT SYNTHETIC RUBBER PLANT -- Moscow, Trud, 15 Sep 60

CPYRGHT At the synthetic rubber plant being built in Stavropol', Kuybyshevskaya Oblast, large spherical reservoirs are now being erected. The builders are striving for fulfillment of the plan ahead of schedule.

Tires

CONFERENCE REVEALS TIRE MANUFACTURE DEFICIENCIES -- Moscow, Trud, 12 Aug 60

CPYRGHT Since 1 July 1960, the Moscow Tire Plant has produced new types of tires for trucks and passenger cars. Life of the new tires used on ZIL-150 and Moskvich motor vehicles has risen 50 percent. However, the possibilities for further improvement of tire quality have not been exhausted. Improvements in the plant's manufacturing processes are only one source of such possibilities. Tire quality, above all, depends on the raw materials used in tire manufacture, the rubber, carbon black, and textile materials. In the sphere of raw materials, many deficiencies still exist.

Early in 1960, a conference was held in which representatives from supplier plants and representatives from scientific research institutes took part. The suppliers were subjected to many criticisms. The Sumgait Synthetic Rubber Plant, for instance, was criticized for supplying sub-standard rubber. A plant in Stavropol' was criticized for departures from GOST and the poor quality of its carbon black.

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Zayev, chief of the quality control division, Voronezh Synthetic Rubber Plant, and Margulis, representative from the Dedovsk Cord Plant, addressed the conference and both promised to supply only first-quality materials in the future. At its conclusion, the conference adopted an appropriate resolution.

Seven months have passed since the conference was held. There have been few noticeable changes. Apparently, by the time they arrived at their homes, the representatives had forgotten their promises.

The Moscow Tire Plant was to have replaced viscose cord 10V with better-quality cord 11V in the first quarter of 1960. However, the combine in Kalinin that produces the cord has continued to supply a product of the inferior quality. Plans to use higher-quality cord 16NV in the manufacture of 260-20 tires have been postponed indefinitely because the Kalinin combine has not yet organized its production.

Plastics

CPYRGHT POLYETHYLENE SHOP ALMOST READY -- Moscow, Ekonomicheskaya Gazeta, 18 Aug 60

A shop for the production of polyethylene will soon go into operation at the Ufa Synthetic Alcohol Plant. Equipment has been installed and tested.

NEW SEAT COVER MATERIAL TESTED IN BUSES -- Kiev, Pravda Ukrainy, 18 Aug 60

CPYRGHT The Zaporozh'ye Artificial Leather Plant is producing a new product which it has called "avtobim." Made in light blue, dark blue, yellow, and beige, it resembles high-quality natural leather but costs much less, since it is made of cotton fiber and polyvinyl chloride resin.

Utility of the new material has been tested in L'vov, Khar'kov, and Kremenchug, where it has been used to cover the seats of motor and trolley buses.

The new enterprise in Zaporozh'ye has already dispatched 12,000 sq m of the new artificial leather from its warehouses.

Chemical Fibers

FURTHER PROGRESS AT BARNAUL FIBER PLANT -- Moscow, Izvestiya, 17 Sep 60

CPYRGHT At the Barnaul Artificial Fiber Plant, the second stage of the chemical shop in the large five-story building has been completed 2 weeks ahead of schedule. A continuous polymerization installation has gone into operation and the plant chemists produced the first capron filament on the morning of 16 September 1960.

RAW MATERIAL FACILITY UNDER CONSTRUCTION IN ARMENIA -- Moscow, Ekonomicheskaya Gazeta, 11 Sep 60

CPYRGHT Construction of buildings for cellulose acetate production has begun on the grounds of the Yerevan Polyvinyl Acetate Plant. Cellulose acetate will be produced there by the continuous method. Thousands of tons of this product will be sent annually to the Kirovakan Acetate Silk Plant.

OUTPUT RISES 21 PERCENT, TO 180,000 TONS, IN TWO YEARS -- Moscow, Khimicheskiye Volokna, No 3, 1960, p 1

CPYRGHT During 1958-1959, the USSR chemical fiber industry exceeded its production plans. Production of chemical fibers rose 21 per cent in the years and amounted to some 180,000 tons in 1959. The 1958 chemical fiber industry production plan was fulfilled 103 percent and the 1959 plan 102 percent.

Fertilizers

CENTRAL ASIAN PLANT REACHES SULFURIC ACID OUTPUT STAGE -- Moscow, Ekonomicheskaya Gazeta, 21 Aug 60

CPYRGHT A superphosphate plant is under construction near Chardzhou in the Amu-Dar'ya River valley. On completion, it will supply chemical fertilizers for the cotton fields of Turkmenistan and other Central Asian republics. On 20 August 1960, one of the two main shops went into operation and produced the first tons of sulfuric acid, which will serve as raw material for superphosphate production.

Ashkhabad, Turkmenskaya Iskra, 1 Sep 60

CPYRGHT The Chardzhou Superphosphate Plant has shipped two carloads of sulfuric acid, the initial output of the new plant.

Detergents

SEVEN-YEAR PLAN PROVIDES FOR UPSWING IN OUTPUT -- Moscow, Gorodskoye Khozyaystvo Moskv, No 6, Jun 60, p 38

CPYRGHT According to an announcement of the State Committee on Chemistry of the Council of Ministers USSR, the production of detergents in enterprises of the chemical industry will increase considerably in the course of the Seven-Year Plan. Annual sulfonol output is to rise from 1,000 tons to 100,000 tons (50,000 tons will be produced in 1961), while sulfonate production is to grow to 48,000 tons (12,000 tons in 1961) and the output of "OP" products is to increase from 5.1 tons to 28,500 tons (25,100 tons in 1961). The plan also provides for a sharp increase in the output of spot removers. Trichloroethylene requirements for household use are to be fully met from 1961 on.

Oxygen

NEW STATION SUPPLIES KAZAKH INDUSTRIAL AREA -- Alma-Ata, Kazakhstanskaya Pravda, 10 Sep 60

CPYRGHT A high-capacity oxygen station has gone into operation in Pavlodar. Now the construction projects and enterprises in the Pavlodar-Ekibastuz industrial area will be fully supplied with local oxygen. Initial deliveries have been made to the station's consumers.

II. FUELS

New Oil Discoveries

NEW OIL FIELD IN CASPIAN SEA OFFSHORE FROM BAKU -- Yerevan, Kommunist,
11 Sep 60

The city of Neftyanoye Kammi, the site of an oil field by the same name 100 km offshore from Baku, is further extending its boundaries into the Caspian Sea.

Construction has already been started of a scaffold bridge that will connect Neftyanoye Kammi with Gryazevaya Sopka, the site of a rich oil deposit discovered under the Caspian. The exploration of the Gryazevaya Sopka site is nearing completion and a large oil field is to be built up there in 1961. The nine wells that have been drilled have shown the presence of huge oil and gas reserves in this area.

More group-well drilling is being performed in the offshore region. Construction of a steel platform island on piles, with an area of about 2,500 square meters, has almost been completed; the island will be used for drilling 20 directional wells. This will be the 17th group of wells drilled in the Caspian.

NEW OIL FIELD FOUND IN SHIRVAN STEPPE REGION OF AZERBAIDZHAN -- Baku, Bakinskiy Rabochiy, 26 Aug 60

The contouring of the oil field discovered in July 1960 at Karabagly in the Shirvan Steppe region of Azerbaydzhan is expected to begin soon in order that commercial development of the pool may begin in 1961. Exploratory drilling at the site, which produced flowing oil, is to be intensified. By the end of 1960, six new wells, to depths of 4,500 meters, are to be drilled.

Exploratory drilling is also slated for the eastern side of the northwest pericline of the Kyurovdag structure to seek gas condensate pools. Up to June 1960, the wells in the northern section of the structure were primarily from the first horizon. In June, however, a well was brought in from the third horizon of the northwest pericline. This well, now producing up to 40 tons of crude oil per day, not only increased commercial reserves but also made it possible to seek new locations for exploratory wells. Some 270,000 meters of holes are to be drilled during 1960 in the area in which the Shirvanneft' Oil Field Administration operates.

New water flood projects are to be completed at the Kyurovdag deposit by the end of 1960. Water flooding began at this site in 1957 and at the Mishovdag site in 1960. The strata pressure in the central part of the Kyurovdag structure was stabilized 1½ years ago.

MULTISTRATA OIL FIELD FOUND IN DEVONIAN ROCKS IN BASHKIRSKAYA ASSR -- Riga, Sovetskaya Latvija, 19 Aug 60

Ufa -- A multistrata oil field, which geologists consider to be quite promising, has been discovered in the Devonian rocks at Troitskoye, near the Serafimovka fields in western Bashkirskaya ASSR. The flowing well is producing hundreds of tons of crude oil daily.

Drilling

SEVERAL GEOLOGICAL WELLS TO BE DRILLED IN CASPIAN SEA REGION OF KAZAKHSTAN -- Alma-Ata, Kazakhstanskaya Pravda, 13 Jul 60

Gur'yev -- Four or five wells are to be drilled, to depths of 4,500-5,000 meters, in the next 2 years in the Caspian Sea region to study the structure of oil reservoirs and salt domes there.

The Makat Drilling Office has already started drilling one of these wells at the Inder salt dome. This well will be the deepest in the Emba River valley.

PROGRESS AT OIL FIELD IN KAZAKHSTAN CRITICIZED -- Alma-Ata, Kazakhstanskaya Pravda, 9 Sep 60

The progress being made at the new Karsak Oil Field, which went on stream in Kazakhstan in 1960, is not very encouraging.

Drillers are scheduled to place 32 new oil wells into production in 1960, but as yet have drilled only 24 wells and not all of these have been connected to group installations. The underground well-repair crew is not provided with the necessary materials and instruments.

The operating crews and equipment travel daily to Karsak, 40 km from the Baychunas Oil Field Administration. No one is concerned about the road, which is in need of repairs.

The Construction and Assembly Office of the Kazakhstanneft' Association is supposed to provide the oil workers with 20 homes, but as yet none have been built.

SUPERDEEP GAS CONDENSATE WELL GOES ON STREAM IN AZERBAIDZHAN -- Baku, Bakinskiy Rabochiy, 27 Aug 60

CPYRGHT A superdeep well, flowing about 20 tons of condensate and 250,000 cu m of gas per day from a depth of 3,650 meters, has been placed on stream at Field No 7 of the Karadagneft' Oil Field Administration.

ELECTRODRILL TRIED OUT IN TURKMENISTAN -- Ashkhabad, Turkmeneskaya Iskra, 12 Aug 60

CPYRGHT The electrodrill, used successfully heretofore in both Azerbaydzhan and in the Bashkirskaia ASSR, is being used for the first time in Turkmenistan to drill an oil well on the western outskirts of the Vyshka Oil Field.

The Turkmen drillers must drill holes to depths of 3,000 meters and more. Unlike the turbodrill, the electrodrill can drill to any depth and with any drilling fluid. The turbodrill, which is used widely in Turkmenistan, drills satisfactorily to certain depths, but beyond these depths heavier mud solution must be used and the drill begins to lose some of its efficiency. Because of this situation, prospectors must use the rotary drill, which not only takes up more time than the turbodrill but also makes drilling more expensive.

Using the electrodrill on this well, the crew penetrated through 70 meters of rock within an hour. However, after drilling 100 more meters of rock, the crew was forced to stop using the electrodrill and revert to the turbodrill because of the shortage of pipe equipped with electric cable.

Gas Operations

DAILY GAS OUTPUT IN SARATOVSKAYA OBLAST EXPECTED TO RISE -- Leningradskaia Pravda, 19 Aug 60

CPYRGHT After two gas lines are put in service (one of which is already built and the other nearly completed), daily output at the gas fields in Saratovskaya Oblast is expected to rise 11-12 percent in 1960. Gas deliveries to Moscow can be increased and it will be possible to meet the rising gas requirements of Saratovskaya Oblast.

The already built General'skoye-Engels line will deliver gas to TETS-3 /Heat and Electric Power Station No 3/ and to dozens of apartments in Engels, whereas the nearly built Pervomayskoye-Storozhovka line is expected to supply gas to Moscow from the Pervomayskoye, Suslovskiy, and Furmanovka fields on the eastern side of the Volga in the oblast.

Coal

HUGE COAL FIELD FOUND IN UKRAINE -- Kiev, Pravda Ukrainy, 9 Sep 60

Dnepropetrovsk -- A huge coal field, with estimated reserves of several million tons and as resourceful in coal as the Donets Basin, has been found in the Ukraine. Covering an area of 10-15 km by 200 km and extending over the Petropavlovskiy, Pavlogradskiy, and Novo-Moskovskiy rayons of Dnepropetrovskaya Oblast, the field has been named Zapadnyy Donbass field. Its coal is suitable for coking purposes.

During the Seven-Year Plan, several large coal mines, four of which are already under construction, are slated to go into operation in the new coal region. Miners' settlements and asphalt roads are being built along with the mines.

NEW METHOD REDUCES DUST IN COAL MINES 25-33 PERCENT -- Moscow, Komsomol'skaya Pravda, 11 Aug 60

Karaganda -- A new method has been developed and tested recently for coping with coal dust by soaking the coal bed with water before the coal combine starts cutting. The method has been introduced in coal mines No 6-7, imeni Kirov, and No 26.

By this method, holes are drilled first into the coal beds and then water is injected therein by means of powerful pumps. Since the water is injected under pressure, it seeps into all the cracks. As a result, only wet coal moves over the conveyor. There is 25-33 percent less coal dust than before. In most cases, it is unnecessary to rupture the coal bed by blasting, as before, because the water does this. The combine also cuts faster. Moreover, not only is there less dust but also less gas. Two persons can easily operate the water-sprinkling unit.

III. FERROUS METALLURGY

Ore Extraction

RICH ORE FOUND AT ZHELEZNOGORSK -- Kishinev, Sovetskaya Moldaviya, 14 Jun 60

Zheleznogorsk -- At 1800 hours on 10 June, a bed of hard limestone at a depth of 64 meters in a pit of the [Zheleznogorsk] quarry was blasted open and underneath it was found an ore with an iron content of 58 percent. This is the long-sought ore of the Kursk Magnetic Anomaly.

KURSK MAGNETIC ANOMALY YIELDS MILLION TONS SINCE FIRST OF YEAR -- Moscow, Pravda, 22 Jul 60

Belgorod, 21 July -- Since the beginning of 1960, the KMAruda /Kursk Magnetic Anomaly Ore/ Combine has shipped out to metallurgists a million tons of ore, which is six times the amount shipped out during the corresponding period of 1959.

The Gubinskiy Iron Ore Region is one of the richest of the entire Kursk Magnetic Anomaly, having two underground ferrous quartzite mines and the Lebedinskiy Open-Pit Iron Mine.

The KMAruda Combine is faced with the task of increasing its output to 11-12 million tons per year by the end of the Seven-Year Plan.

NEW IRON ORE COMBINE IN OPERATION AHEAD OF SCHEDULE -- Frunze, Sovetskaya Kirgiziya, 26 Jul 60

Kurskaya Oblast -- Miners of the Mikhaylovskiy Iron Ore Combine have started industrial mining of ore 12 months ahead of schedule.

KURSK MAGNETIC ANOMALY TO EQUAL CURRENT US IRON ORE OUTPUT BY 1980 -- Moscow, Pravda, 4 Aug 60

A press conference for Soviet and foreign journalists was held on 3 August 1960 by the State Committee for Cultural Relations with Foreign Countries of the Council of Ministers USSR.

P. Ya. Antropov, Minister of Geology and Mineral Conservation USSR, spoke on the prospects for further development of the Kursk Magnetic Anomaly.

Within the boundaries of the Kursk Magnetic Anomaly, which encompasses an area 200 km wide and 700 km long, prospecting has revealed 30 billion tons of iron ore with an iron content of up to 60 percent, and a total estimated reserve of 200 billion tons of all types of iron ore and ferrous quartzite. The 1960 explored reserve of iron ore in capitalist countries amounts to 40 billion tons.

The minister stated further that the Kursk Magnetic Anomaly alone will yield 36 million tons of ore per year by the end of the Seven-Year Plan, and up to 60 million tons per year by 1980. This is equivalent to the current annual yield of all mines in the US.

CPYRGHT

Antropov further emphasized that within the next few years, the Soviet Union will be in a position to completely satisfy the requirements for iron ore of the entire socialist camp, and also to export significant quantities of it to other states in Europe and Asia.

Construction

OPEN-HEARTH FURNACE CONSTRUCTION AHEAD OF SCHEDULE -- Moscow, Pravda, 24 Jul 60

The Cherepovets Metallurgical Plant has completed construction of a huge new open-hearth furnace $1\frac{1}{2}$ months ahead of schedule, and the first melt was obtained from it on 23 July. The Cherepovets-metallurgstroy Trust has pledged to complete construction of the next such open-hearth furnace by Construction Workers Day [14 August], or 2 months ahead of schedule.

CONSTRUCTION PLANNING UNSATISFACTORY -- Moscow, Pravda, 26 Jul 60

The planning and financing of construction as practiced at a number of projects of the pipe industry cannot be condoned. The Sverdlovskiy Sovnarkhoz and Gosplan RSFSR have obviously allotted insufficient funds for equipping the stainless electrowelded pipe shop of the Pervoural'skiy Starotrubnyy Plant.

It appears that sovnarkhozes, enterprises, and the State Commission on Automation and Machine Building of the Council of Ministers USSR are not devoting sufficient attention to the development of scientific research and planning-and-design organizations for the pipe industry. For example, the funds allotted for expansion of the Ukrainian Scientific Research Pipe Institute in Dnepropetrovsk have not been put to use, and completion of the construction of the production and experimental base of the institute is 2 years behind schedule. The sovnarkhozes and planning organizations do not always allot funds for the metal, materials, and equipment for manufacturing and testing new models.

Tremendous savings could be effected through the introduction of pipe with protective coatings, yet entirely unsatisfactory progress is being achieved in the construction of shops for producing such pipe at the Zakavkazskiy Metallurgical, the Pervoural'skiy Starotrubnyy, the Smelyanskiy Machine Building, the Nikopol' Southern Pipe, and the Severskiy Metallurgical plants and at the Dnepropetrovsk Pipe Plant imeni Lenin.

NOVO-LIPETSK CONSTRUCTION PROCEEDS RAPIDLY -- Vil'nyus, Sovetskaya Litva,
5 Aug 60

Lipetsk, 4 August -- Rapid progress is being made in the construction of the Novo-Lipetsk Metallurgical Plant, where the units already in operation include the hot rolling shop, the country's largest electric furnaces, huge installations for the continuous pouring of steel, coke batteries, and a number of auxiliary shops. The first stage of a shop for the cold rolling of electrical steel was recently put into operation, and the second stage is currently under construction. Its eight huge bays will house 20,000 tons of various types of equipment. This giant shop will be the first to employ the continuous annealing of electrical sheet steel.

CPYRGHT

EQUIPMENT TESTING STARTED IN DARGVETI -- Moscow, Ekonomicheskaya Gazeta,
5 Aug 60

Testing of equipment has been started at the Dargveti Ore Concentrating Plant in Chiatura, Georgian SSR. Together with the Dargveti Mine, this is one of the most important construction projects of the Seven-Year Plan.

CPYRGHT

Steel Production

ELEKTROSTAL' PLANT USES OXYGEN EXTENSIVELY -- Moscow, Leninskoye Znamya,
26 Jul 60

The Moscow Elektrostal' Plant uses oxygen in the melting of more than two thirds of the steel it makes. Other novelties employed by this plant include the "cold repair" of electric furnaces by means of "separable housings," extensive use of which will permit a 3,000-ton increase in steel output per year. Over-all mechanization and automation of electric furnaces will also permit a considerable increase, but progress in this area is unsatisfactory and as yet achieved only on individual operations. A fully mechanized and automated furnace is not expected in this shop before 1962, after which it will serve as the basis for modernizing all other units. It is to be hoped that the State Institute for the Planning of Metallurgical Plants and the Elektropech' Special Design Bureau (OKB) will accelerate this work following the July Plenum of the Central Committee CPSU.

CPYRGHT

NEW METHOD FOR BEARING STEEL PRODUCTION -- Moscow, Leninskoye Znamya,
28 Jul 60

The Institute of Welding imeni A. O. Paton of the Academy of Sciences Ukrainian SSR has developed an electroslag method of remelting for the production of high-grade bearing steel, and special equipment has been developed for use in this method.

CPYRGHT The first of these units is in operation at the Zaporozh'ye Dneprospectstal' Plant, and the second has been installed in Steel Melting Shop No 1 of the Moscow Elektrostal' Plant. The first melt was obtained from the latter on the eve of the July Plenum of the Central Committee CPSU, and the 50th melt was obtained on 27 July. The Elektrostal' Plant has started rolling ingots obtained from the melt of the new furnace on a "600" mill.

FAULTY STEEL CAUSES BREAKDOWNS -- Moscow, Promyshlennoye Stroitel'stvo,
Jun 60, p 34

CPYRGHT The breakdown of the uncompleted Kurgan Television Tower on 26 December 1959 and its subsequent destruction on 30 December 1959, as well as the breakdowns of a number of other structures made with type St 3kp steel in the past several years, indicate that the quality of this steel is sometimes so low that it should not be used in the construction of supporting structures. The metallurgical industry must be required either to vastly improve the quality of this steel or to replace it in the production of supporting structure materials with semikilled steel having a 0.05-0.17 percent silica content, which is more stable mechanically.

Rolling Operations

NEW METHOD OF PIPE ROLLING -- Kiev, Pravda Ukrainy, 26 Jul 60

CPYRGHT A progressive method of "warm" pipe rolling (teplaya prokatka) has found extensive application at the Nikopol' Southern Pipe Plant, and stainless steel pipe rolled by this method is being used extensively in the chemical industry. Nikopol' rolling mill operators have pledged to achieve 1965 goals during 1963.

AUTOMATED ROLLING MILL TESTING STARTED -- Riga, Sovetskaya Latvija,
14 Jun 60

CPYRGHT

The Lipetsk Metallurgical Plant has completed installations and started testing of a huge "1200" automated rolling mill designed for rolling sheet as thin as 0.35 mm.

The rolling shop of this plant has also completed installation of units for dipping (travleniye) and both crosswise and lengthwise cutting of metal.

TELEVISION USED ON ROLLING MILL -- Kiev, Pravda Ukrainy, 26 Jul 60

CPYRGHT

The Dnepropetrovsk Metallurgavtomatika Administration has developed a plan for fully automating the process of cutting off rolled metal. A television camera has been installed on the final stand of an "800" mill in the rail and girder shop of the Dnepropetrovsk Metallurgical Plant imeni Petrovskiy. This camera works in conjunction with a special electronic computer, measuring the stock as it passes and transmitting signals to the computer. This automatic method will eliminate waste in the cutting operations.

IV. NONFERROUS METALLURGY

Copper and Aluminum

RICH COPPER DEPOSIT LOCATED AT GAY -- Moscow, Trud, 16 Aug 60

CPYRGHT

Geologists have discovered in the area around Gay a rich deposit of copper ores which contains five times as much metal as is found in ores worked by the Mednogorsk Copper-Sulfate Combine and other copper-smelting enterprises of the Urals. Construction of a large-scale ore-concentrating combine has already started.

In 1959, construction workers began building dwelling units which are now occupied by 12,000 inhabitants, with more arrivals constantly appearing.

Construction of the open-pit mine from which ore will be recovered is progressing steadily. So far, 8 million cu m of overburden has been removed.

DZHEZKAZGAN METALLURGICAL COMBINE TO INCREASE COPPER PRODUCTION -- Alma-Ata, Kazakhstanskaya Pravda, 9 Aug 60

Geological expeditions operating in the Dzhezkazgan area have completed the first part of their exploratory program in search of copper, lead, and other valuable metals.

The Dzhezkazgan Copper Deposit, the largest in the USSR, will produce three times as much copper in 1965 as it did in 1958 and almost four times as much copper concentrates.

In 1965, the Dzhezkazgan Metallurgical Combine will produce six times as much blister copper as in 1958. This will be made possible by the operation of a copper-smelting plant with an electrolytic shop, the first section of which will be completed within the next few years. Concentration Mill No 2 will soon be in operation and in 1960 the capacity of Concentration Mill No 1, already in operation, will be greatly expanded.

ARMENIAN SSR TO EXPAND NONFERROUS METALLURGY -- Yerevan, Kommunist, 26 Aug 60

The Seven-Year Plan for developing the national economy of the Armenian SSR calls for a further expansion of nonferrous metallurgy. Gross production in the nonferrous metallurgical industry of the republic in 1965 will be more than three times as great as it was in 1958; the production of molybdenum will increase by a factor of 3.2, copper by 4, zinc by 4.8, and lead by 7.

In 1965 almost five times as much copper as in 1958 and 15 percent more aluminum than in 1958 will be smelted.

New concentration mills will be put into operation during the Seven-Year Plan in Agarak, Kafan, and Akhtala, while the Kadzharan and Dastakert copper-molybdenum plants will be enlarged. About 1.5 billion rubles, or more than 12 percent of total capital investment during the Seven-Year Plan, will be given over to the development of nonferrous metallurgy in the Armenian SSR.

UNLIMITED NEPHELINE RESERVES REPORTED IN SIBERIA -- Leningradskaya Pravda, 12 Aug 60

Construction workers in Siberia have recently begun work on a main highway leading to the unlimited reserves of nepheline stored in the Kiya-Shaltyr Deposit.

Alumina from the deposit will be processed by the Krasnoyarsk Aluminum Combine, which is scheduled to be not only the largest producer of aluminum in the USSR, but also the most mechanized and automated one. Labor productivity at the Krasnoyarsk Aluminum Combine will be four times as high as that of the better enterprises now in operation.

Lead-Zinc

LEAD-ZINC MINE ADDS CONCENTRATION MILL -- Tbilisi, Zarya Vostoka, 14 Aug 60

CPYRGHT The Kvaisi Lead-Zinc Mine also produces barite, which it has been transporting a fairly long distance from Kvaisi for processing. Since this resulted in increased production costs, the Kvaisi Mine Administration constructed its own concentration mill, which was recently put into operation.

HIGH-LEVEL PRODUCTION ACHIEVED BY LEAD-ZINC COMBINE -- Moscow, Ekonomicheskaya Gazeta, 20 Aug 60

CPYRGHT The Ust'-Kamenogorsk Lead-Zinc Combine imeni V. I. Lenin, as a result of introducing innovations and of mechanizing production processes, will attain as early as in 1961 the level of gross production scheduled for 1965.

The adoption of roasting in a fluidized bed has enabled the combine to completely automate the roasting process, with the result that labor productivity increased by a factor of 3-4 and the working force was entirely freed from physical labor.

Other Ores

MANGANESE ORE SHIPPED TO CONCENTRATION PLANT -- Moscow, Pravda, 25 Jul 60

CPYRGHT The Bogdanovskiy Open Pit of the Mine imeni Ordzhonikidze, the largest (samyy moshchnyy) open pit of the Nikopol'-Margantsevskiy Basin, ships hundreds of tons of manganese ore daily to the concentrating plant.

POLYMETALLIC MINE REACHES 1965 PRODUCTION LEVEL -- Moscow, Pravda, 28 Aug 60

CPYRGHT The Leninogorsk Mine in Vostochno-Kazakhstanskaya Oblast has already reached production levels scheduled for 1965 in the extraction of polymetallic ores.

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